IN THE CLAIMS:

The following listing of claims replaces all prior versions and listings of claims in the present application:

Listing of Claims:

1. (Cancelled)

2. (Currently amended) **[[**The**]]** A leak detector ~~according to claim 1, further~~ for detecting a leak of a liquid injected through a needle into a blood vessel near the surface of a human body, comprising:

pulse generating means for sequentially emitting pulse signals toward the human body at a position at which said needle is inserted through wave propagation at a predetermined wavelength;

pulse detecting means for detecting said pulses reflected inside of said human body;

interval measuring means for measuring a time interval between the emission and the detection for each of said pulse signals;

difference calculating means for calculating the difference between the measured time interval and a predetermined reference time interval;

difference comparing means for comparing the calculated difference with a predetermined acceptable range;

leak warning means for generating a leak warning for notification when the difference exceeds the acceptable range; and

interval storing means for storing the measured interval at least until the next interval is measured, wherein said difference calculating means employs the last measured interval as the reference

interval for calculating the difference between the currently measured interval and the reference interval.

3. (Currently amended) **[[**The**]]** A leak detector ~~according to claim 1, further~~ for detecting a leak of a liquid injected through a needle into a blood vessel near the surface of a human body, comprising:

pulse generating means for sequentially emitting pulse signals toward the human body at a position at which said needle is inserted through wave propagation at a predetermined wavelength;

pulse detecting means for detecting said pulses reflected inside of said human body;

interval measuring means for measuring a time interval between the emission and the detection for each of said pulse signals;

difference calculating means for calculating the difference between the measured time interval and a predetermined reference time interval;

difference comparing means for comparing the calculated difference with a predetermined acceptable range;

leak warning means for generating a leak warning for notification when the difference exceeds the acceptable range; and

interval storing means for storing the first measured interval, wherein said difference calculating means calculates the difference between the current measured interval and the first measured interval, said first measured interval being used as the reference interval; and said difference comparing means compares the difference with a predetermined acceptable range.

4-60. (*Cancelled*)